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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,500	07/23/2003	Bruce F. Monzyk	13505US	1976

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EXAMINER	
DRODGE, JOSEPH W	
ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/626,500

Applicant(s)

MONZYK ET AL

Examiner

Joseph W. Drodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings filed 7/23/2003 contain numerous informal notations and are not of acceptable quality for printing. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 19, "the stripping circuits" lacks antecedent basis.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,3,4,11-15 and 17-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Delmas et al patent 6,267,936.

Delmas et al disclose extraction of metal ions from aqueous solutions utilizing mixtures or solutions of extractant, modifier and diluent (also referred to in Delmas as "organic solvent or solution" (column 8, lines 29-46 summarize while column 18, line 66

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explicitly recite "diluent". The pH is maintained below about 6 (column 8, lines 18-20) and aqueous feed solution to organic phase maintained at any of a wide range of proportions (column 8, lines 56-59).

Delmas also disclose the following aspects of dependent claims: optional contact with a base, phase separation and metal recovery at column 8, lines 27-28, column 9, lines 37-41 and column 16, lines 30-37 as in claims 30 and 31; aqueous solution recycle at column 1, lines 57-60 and 64-66 for claim 11, pH adjustment with strong acid at column 8, lines 23-27 for claims 3, 7, 20 and 21, use of specific gravity differences in separation at column 8, line 62 "mixer-settler plant" for claim 4, extraction of chromium at column 7, line 64 for claims 12, 14, 15 and 29, tertiary amine extractant at column 7, lines 27-50 for claim 13, effluent from surface finishing operations inferred from the industrial processes mentioned at column 1, lines 57-60 for claim 18, automatic control at column 16, lines 53-61 for claim 19, variations of aqueous feed solution to extractant solution or organic phase at column 8, lines 56-60 for claims 22-24, use of hydrocarbon diluents with 5-15 carbon atoms at column 16, line 60 or column 8, lines 41-45 for claim 25, alcohol modifiers at column 9, lines 8-11 for claim 26, mixer or stirrer use at column 8, line 62 for claim 27,

Ion transfer/pairing and metal cation extraction/complexation/colloidal capture is disclosed at column 7, lines 54-56 and column 7, lines 23-25 and column 9, lines 16-18, respectively, for claims 28 and 29.

With regard to claims 30 and 31, see means for contacting at column 8, line 62, means for separating to give metal loaded phase/solution at column 8, lines 64-65,

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means for solution separation and recycling at column 8, lines 65-66 and column 9, lines 37-41, means for metal ion recovery at column 9, lines 23-26.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2,5-10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Delmas et al patent 6,267,936 in view of Hein patent 5,879,556.

These claims differ in requiring that the extraction process include one or more metal stripping steps. Hein teaches a process of recovery metals from aqueous solutions with extractant, diluent and modifier, in which stripping steps are also conducted using various bases (see especially column 8, lines 12-46). It would have been obvious to one of ordinary skill in the art to have augmented the Delmas process by utilizing the stripping steps taught by Hein, since such stripping enables greater recovery and recycling of extractant and diluent in the process, thus facilitating conservation of scarce, expensive resources and scale-up to industrial processes. With regard to claims 6 and 8, Delmas et al at column 27-28 suggest process steps including stripping optionally conducted by adding bases to raise pH. With regard to claims 7 and 9, Hein teaches adding of substantial quantities of aqueous phase to the stripping solution at column 8, lines 24-35 to facilitate recovery of entrained organic phase.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

March 7, 2005


JOSEPH DRODGE
PRIMARY EXAMINER